

# **ENGINEERING CHANGE NOTICE** **DART AEROSPACE LTD**

*MP*

Date: 11.07.22	Job No.: RD2352	ADR Yes/No: N	ADR Date: N/A	ECN #: 11- 615
Product No.: D206-667 / D058-676		Created By: CP	Approved By: <i>[Signature]</i>	
Product Name: Crossube		Checked By: <i>[Signature]</i>	General Manager Approval:	

Distribution	Reqd	Resp	Initial / Date
Production Manager / Coord.	Y	LL	
Purchasing Coord.	Y	CL	
Production Engineering Coord.	Y	EC/DD	

Distribution	Reqd	Resp	Initial / Date
DQA / QA Coord.	N		
QC Coordinator	Y	ED	
Customer Technical Support	Y	SW/CK	
Marketing	Y	MB	
Customer Order Processing	N		

**Reason for Change:**  
Update support installation to address slipping complaints

**Documents Affected:**  
Release:

- DEO D206-667-141-C-1	- DEO D407-667-145-C-1	- DSI 9565 Rev. A
- DEO D206-667-143-C-1	- D2891 Rev. B	
- DEO D206-667-243-C-1	- D2892 Rev. B	- DEO D058-676-141-B-1
- DEO D206-667-147-A-1	- DEO D206-667-247-A-1	- DEO D058-676-241-B-1

**PARTS MUST COMPLY** ☒ **PREVIOUS PARTS SATISFACTORY** ☐

#	Quality Assurance Actions	Reqd	Resp	Notes	Complete
1	Notify Previous Customers	N			
2	Notify Eurocopter France	N			
3					

#	Engineering Actions	Reqd	Resp	Notes	Complete
4	Required Documents/Drawings Under Review	Y			
5	Update Master Document List (MDL)	Y	KJ	new format	
6	Update Product Compatability Matrix	N			
7	Create Eurocopter Form (FEE)	N			
8	Notify TC / FAA of Change	N			
9					

#	Document Control Actions	Reqd	Resp	Notes	Complete
10	Move Electronic Files/Design Journal	Y	KJ	EXCEPT D058-676 DEP'S.	11.07.28 <i>[Signature]</i>
11	Update Product Specification Files	Y	KJ		11.07.28 <i>[Signature]</i>
12	Update Approved/Preliminary Dwg PDF Files	Y	KJ		11.07.28 <i>[Signature]</i>
13	Update Document Record (DR)	N			
14	Update Product Development Summary	N			
15	Update QSI 021 and/or STC Approval List	N			
16	Update Parts / STC Database	N			
17	Update / Verify ARC Database	N			
18	Create / Update Change Record Form / Item Card Database	Y	KJ		
19	Create / Update PPP's	Y	KJ		
20	Red Decals required?	Y	KJ		
21	Update Document Control Database / Laminated Dwgs	N			
22	Update Grey Project / Electronic Binder PDF Files	Y	KJ		11.07.28 <i>[Signature]</i>
23	Update D-Part/M-Drawing/DSI/DEO Master Binders	Y	KJ		11.07.28 <i>[Signature]</i>
24					

**Description / Action:**

- supports of affected tubes now installed with 3M 2216 & Proseal 890
- D2891-1 & D2892-1: finish removed, 3M 2216 now applied to bottom surface
- D206-667-101 @ CHG 004, D206-667-103 @ CHG 005, D206-667-107 @ CHG 002, D206-667-201 @ CHG 004, D206-667-203 @ CHG 004, D206-667-207 @ CHG 002, D407-667-105 @ CHG 004
- D058-676-101 @ CHG002, D058-676-201 @ CHG002
- All affected tubes in production need to be made to this latest procedure and chg #.
- Existing crosstube stock is OK and doesn't need to be reworked.
- stock D2891-1 & D2892-1 Supports need to be reworked to remove finish & 3M 2216 added, per D2891 Rev. B & D2892 Rev. B
- Add DSI to all paperwork of all affected in-progress crosstubes & all affected stock crosstubes

*everything updated w/ new dwgs*  
**11-08-03**  
*[Signature]*

ECN Verified & Complete: \_\_\_\_\_ Date: \_\_\_\_\_

# ENGINEERING CHANGE NOTICE

## DART AEROSPACE LTD

MPP

Date: 11.07.22	Job No.: RD2352	ADR Yes/No: N	ADR Date: N/A	ECN #: 11- 615
Product No.: D206-667 / D058-676	Created By: CP	Approved By: MPP		
Product Name: Crossube	Checked By: [Signature]	General Manager Approval:		

Distribution	Reqd	Resp	Initial / Date
Production Manager / Coord.	Y	LL	
Purchasing Coord.	Y	CL	
Production Engineering Coord.	Y	EC/DD	

Distribution	Reqd	Resp	Initial / Date
DQA / QA Coord.	N		
QC Coordinator	Y	ED	
Customer Technical Support	Y	SW/CK	
Marketing	Y	MB	
Customer Order Processing	N		

**Reason for Change:**  
Update support installation to address slipping complaints

**Documents Affected:**

Release:

- DEO D206-667-141-C-1 - DEO D407-667-145-C-1 -DSI 9565 Rev. A
- DEO D206-667-143-C-1 - D2891 Rev. B
- DEO D206-667-243-C-1 - D2892 Rev. B - DEO D058-676-141-B-1
- DEO D206-667-147-A-1 -DEO D206-667-247-A-1 -DEO D058-676-241-B-1

PARTS MUST COMPLY ☒ PREVIOUS PARTS SATISFACTORY ☐

#	Quality Assurance Actions	Reqd	Resp	Notes	Complete
1	Notify Previous Customers	N			
2	Notify Eurocopter France	N			
3					

#	Engineering Actions	Reqd	Resp	Notes	Complete
4	Required Documents/Drawings Under Review	Y			
5	Update Master Document List (MDL)	Y	KJ	new format	
6	Update Product Compatability Matrix	N			
7	Create Eurocopter Form (FEE)	N			
8	Notify TC / FAA of Change	N			
9					

#	Document Control Actions	Reqd	Resp	Notes	Complete
10	Move Electronic Files/Design Journal	Y	KJ	EXCEPT D058-676 DEP'S.	11.07.28 [Signature]
11	Update Product Specification Files	Y	KJ		11.07.28 [Signature]
12	Update Approved/Preliminary Dwg PDF Files	Y	KJ		11.07.28 [Signature]
13	Update Document Record (DR)	N			
14	Update Product Development Summary	N			
15	Update QSI 021 and/or STC Approval List	N			
16	Update Parts / STC Database	N			
17	Update / Verify ARC Database	N			
18	Create / Update Change Record Form / Item Card Database	Y	KJ		
19	Create / Update PPP's	Y	KJ		
20	Red Decals required?	Y	KJ		
21	Update Document Control Database / Laminated Dwgs	N			
22	Update Grey Project / Electronic Binder PDF Files	Y	KJ		11.07.28 [Signature]
23	Update D-Part/M-Drawing/DSI/DEO Master Binders	Y	KJ		11.07.28 [Signature]
24					

**Description / Action:**

- supports of affected tubes now installed with 3M 2216 & Proseal 890
- D2891-1 & D2892-1: finish removed, 3M 2216 now applied to bottom surface
- D206-667-101 @ CHG 004, D206-667-103 @ CHG 005, D206-667-107 @ CHG 002, D206-667-201 @ CHG 004, D206-667-203 @ CHG 004, D206-667-207 @ CHG 002, D407-667-105 @ CHG 004
- D058-676-101 @ CHG002, D058-676-201 @ CHG002
- All affected tubes in production need to be made to this latest procedure and chg #.
- Existing crosstube stock is OK and doesn't need to be reworked.
- stock D2891-1 & D2892-1 Supports need to be reworked to remove finish & 3M 2216 added, per D2891 Rev. B & D2892 Rev. B
- Add DSI to all paperwork of all affected in-progress crosstubes & all affected stock crosstubes

ECN Verified & Complete: \_\_\_\_\_ Date: \_\_\_\_\_

# ENGINEERING CHANGE NOTICE

## DART AEROSPACE LTD

MPP

Date: 11.07.22	Job No.: RD2352	ADR Yes/No: N	ADR Date: N/A	ECN #: 11- 614
Product No.: D212-664		Created By: CP	Approved By: <i>[Signature]</i>	
Product Name: Crossube		Checked By: <i>[Signature]</i>	General Manager Approval:	

Distribution	Reqd	Resp	Initial / Date
Production Manager / Coord.	Y	LL	
Purchasing Coord.	Y	CL	
Production Engineering Coord.	Y	EC/DD	

Distribution	Reqd	Resp	Initial / Date
DQA / QA Coord.	N		
QC Coordinator	Y	ED	
Customer Technical Support	Y	SW/CK	
Marketing	Y	MB	
Customer Order Processing	N		

### Reason for Change:

Update support installation to address slipping complaints

### Documents Affected:

#### Release:

- DEO D212-664-141-D-2 - DEO D412-664-145-D-2 - DSI 9563 Rev. B
- DEO D212-664-241-D-2 - D2893 Rev. C
- DEO D212-664-147-B-1 - D2940 Rev. C
- DEO D212-664-247-B-1

PARTS MUST COMPLY

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PREVIOUS PARTS SATISFACTORY

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#	Quality Assurance Actions	Reqd	Resp	Notes	Complete
1	Notify Previous Customers	N			
2	Notify Eurocopter France	N			
3					

#	Engineering Actions	Reqd	Resp	Notes	Complete
4	Required Documents/Drawings Under Review	Y			
5	Update Master Document List (MDL)	Y	KJ	new format	
6	Update Product Compatability Matrix	N			
7	Create Eurocopter Form (FEE)	N			
8	Notify TC / FAA of Change	N			
9					

#	Document Control Actions	Reqd	Resp	Notes	Complete
10	Move Electronic Files/Design Journal	Y	KJ		11.07.28 <i>[Signature]</i>
11	Update Product Specification Files	Y	KJ		11.07.28 <i>[Signature]</i>
12	Update Approved/Preliminary Dwg PDF Files	Y	KJ		11.07.28 <i>[Signature]</i>
13	Update Document Record (DR)	N			
14	Update Product Development Summary	N			
15	Update QSI 021 and/or STC Approval List	N			
16	Update Parts / STC Database	N			
17	Update / Verify ARC Database	N			
18	Create / Update Change Record Form / Item Card Database	Y	KJ		
19	Create / Update PPP's	Y	KJ		
20	Red Decals required?	Y	KJ		
21	Update Document Control Database / Laminated Dwgs	N			
22	Update Grey Project / Electronic Binder PDF Files	Y	KJ		11.07.28 <i>[Signature]</i>
23	Update D-Part/M-Drawing/DSI/DEO Master Binders	Y	KJ		11.07.28 <i>[Signature]</i>
24					

### Description / Action:

- supports of affected tubes now installed with 3M 2216 & Proseal 890
- D2893-1 & D2940-1: finish removed, 3M 2216 now applied to bottom surface
- D212-664-101 @ CHG 005, D212-664-101B @ CHG 005, D412-664-105 @ CHG 002, D212-664-107 @ CHG 002, D212-664-107B @ CHG 002, D212-664-201 @ CHG 005, D212-664-201B @ CHG 005, D212-664-207 @ CHG 002, D212-664-207B @ CHG 002
- Note that some of the change numbers for the "-xxxB" tubes have skipped a few change numbers. This was to make them the same # as the "-xxx" tubes
- All affected tubes in production need to be made to this latest procedure and chg #.
- Existing crosstube stock is OK and doesn't need to be reworked.
- stock D2893-1 & D2940-1 Supports need to be reworked to remove finish & 3M 2216 added, per D2893 Rev. D & D2940 Rev. C
- Add DSI to all paperwork of all affected in-progress crosstubes & all affected stock crosstubes

ECN Verified & Complete: \_\_\_\_\_

Date: \_\_\_\_\_

# ENGINEERING CHANGE NOTICE

## DART AEROSPACE LTD

MPP

Date: 11.07.22	Job No.: RD2352	ADR Yes/No: N	ADR Date: N/A	ECN #: 11- 614
Product No.: D212-664		Created By: CP	Approved By: <i>[Signature]</i>	
Product Name: Crossube		Checked By: <i>[Signature]</i>	General Manager Approval:	

Distribution	Reqd	Resp	Initial / Date
Production Manager / Coord.	Y	LL	
Purchasing Coord.	Y	CL	
Production Engineering Coord.	Y	EC/DD	

Distribution	Reqd	Resp	Initial / Date
DQA / QA Coord.	N		
QC Coordinator	Y	ED	
Customer Technical Support	Y	SW/CK	
Marketing	Y	MB	
Customer Order Processing	N		

**Reason for Change:**

Update support installation to address slipping complaints

**Documents Affected:**

**Release:**

- DEO D212-664-141-D-2    - DEO D412-664-145-D-2    - DSI 9563 Rev. B
- DEO D212-664-241-D-2    - D2893 Rev. C
- DEO D212-664-147-B-1    - D2940 Rev. C
- DEO D212-664-247-B-1

**PARTS MUST COMPLY**

☒

**PREVIOUS PARTS SATISFACTORY**

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#	Quality Assurance Actions	Reqd	Resp	Notes	Complete
1	Notify Previous Customers	N			
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3					

#	Engineering Actions	Reqd	Resp	Notes	Complete
4	Required Documents/Drawings Under Review	Y			
5	Update Master Document List (MDL)	Y	KJ	new format	
6	Update Product Compatability Matrix	N			
7	Create Eurocopter Form (FEE)	N			
8	Notify TC / FAA of Change	N			
9					

#	Document Control Actions	Reqd	Resp	Notes	Complete
10	Move Electronic Files/Design Journal	Y	KJ		11.07.28 <i>[Signature]</i>
11	Update Product Specification Files	Y	KJ		11.07.28 <i>[Signature]</i>
12	Update Approved/Preliminary Dwg PDF Files	Y	KJ		11.07.28 <i>[Signature]</i>
13	Update Document Record (DR)	N			
14	Update Product Development Summary	N			
15	Update QSI 021 and/or STC Approval List	N			
16	Update Parts / STC Database	N			
17	Update / Verify ARC Database	N			
18	Create / Update Change Record Form / Item Card Database	Y	KJ		
19	Create / Update PPP's	Y	KJ		
20	Red Decals required?	Y	KJ		
21	Update Document Control Database / Laminated Dwgs	N			
22	Update Grey Project / Electronic Binder PDF Files	Y	KJ		11.07.28 <i>[Signature]</i>
23	Update D-Part/M-Drawing/DSI/DEO Master Binders	Y	KJ		11.07.28 <i>[Signature]</i>
24					

**Description / Action:**

- supports of affected tubes now installed with 3M 2216 & Proseal 890
- D2893-1 & D2940-1: finish removed, 3M 2216 now applied to bottom surface
- D212-664-101 @ CHG 005, D212-664-101B @ CHG 005, D412-664-105 @ CHG 002, D212-664-107 @ CHG 002, D212-664-107B @ CHG 002, D212-664-201 @ CHG 005, D212-664-201B @ CHG 005, D212-664-207 @ CHG 002, D212-664-207B @ CHG 002
- Note that some of the change numbers for the "-xxxB" tubes have skipped a few change numbers. This was to make them the same # as the "-xxx" tubes
- All affected tubes in production need to be made to this latest procedure and chg #.
- Existing crosstube stock is OK and doesn't need to be reworked.
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- Add DSI to all paperwork of all affected in-progress crosstubes & all affected stock crosstubes

ECN Verified & Complete: \_\_\_\_\_

Date: \_\_\_\_\_

## Linda Lacelle

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**From:** Kim Johnston <kjohnston@dartaero.com>  
**Sent:** July 28, 2011 3:49 PM  
**To:** Eric Charbonneau; David Duval; Jean-Luc Menard; Linda Lacelle  
**Subject:** ECN11-614

FYI

D412-664-105 is now at CHG003 not CHG002 as listed on ECN11-614.

Thanks,

Kim Johnston  
Dart Aerospace Ltd.  
Engineering Clerk  
Document Control  
1270 Aberdeen Street  
Hawkesbury, Ontario, K6A 1K7  
Email: [kjohnston@dartaero.com](mailto:kjohnston@dartaero.com)  
Tel: 613-632-5200  
Fax: 613-632-9311

## Linda Lacelle

---

**From:** Kim Johnston <kjohnston@dartaero.com>  
**Sent:** July 28, 2011 3:07 PM  
**To:** Linda Lacelle  
**Cc:** Bill Beckett; Cathy Kerr; Chris Provencal  
**Subject:** ECN 11-614 & 11-615

Linda,

I talked with Marc and Matt about the U/R on the 058/206/212 crosstube workorders and drawings. Everyone is okay with your suggestion of adding the released drawing and ECN to the work orders, crossing out the U/R on the front of the work order with your initials and changing the CHG# in sequence 100 on the top level work orders.

The only one that is still under review is D206-667-201/-241 since we didn't receive the DEO from David. That one will still have to be signed off by Chris P. or Bill B.

Thanks,

Kim Johnston  
Dart Aerospace Ltd.  
Engineering Clerk  
Document Control  
1270 Aberdeen Street  
Hawkesbury, Ontario, K6A 1K7  
Email: [kjohnston@dartaero.com](mailto:kjohnston@dartaero.com)  
Tel: 613-632-5200  
Fax: 613-632-9311

## Where Used - Single Level

Tuesday, August 02, 2011 1:51:23 PM

Page 1 of 1

<b>Component Item ID</b>	<b>Component Name</b>	<b>Unit of Measure</b>	<b>As of:</b> 8/2/2011 1:50:41 PM
D2940-1	Support	Each	

Parent Item ID	Parent Description	Quantity Per Assembly	ECO ID	Effective Start Date	Effective Stop Date	Routing Sequence	Find Nbr
D212-664-201	Crosstube Aft	2.0000		12/5/2009	7/20/2013	230	
D205-596-103	Crosstube Aft Extended	2.0000		12/5/2009		200	
D212-664-207	Crosstube Low Standard Aft	2.0000		12/5/2009	7/20/2013	240	
D212-664-201B	Crosstube Aft High,214	2.0000		12/5/2009		230	
D205-596-107	Crosstube Aft Extended	2.0000		12/5/2009		200	
D212-664-201MB	Crosstube Aft	2.0000		12/5/2009	7/20/2013	230	

## Where Used - Single Level

Tuesday, August 02, 2011 1:51:04 PM

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<b>Component Item ID</b> D2893-1	<b>Component Name</b> 2.75 Support	<b>Unit of Measure</b> Each	<b>As of:</b> 8/2/2011 1:50:41 PM
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Parent Item ID	Parent Description	Quantity Per Assembly	ECO ID	Effective Start Date	Effective Stop Date	Routing Sequence	Find Nbr
D205-596-101	Crosstube Fwd Extended	2.0000		12/5/2009		200	
D205-596-105	Crosstube Fwd Extended	2.0000		12/5/2009		190	
D212-664-101	Crosstube Fwd	2.0000		12/5/2009	7/20/2013	220	
D212-664-101B	Crosstube Fwd High, 214	2.0000		12/5/2009		230	
D212-664-101MB	Crosstube Fwd	2.0000		12/5/2009	7/20/2013	220	
D212-664-107	Crosstube Low Standard Fwd	2.0000		12/5/2009	7/20/2013	240	
D412-664-105	Crosstube, Low Narrow Fwd, 412CF	2.0000		12/5/2009		250	
D412-664-145	Crosstube 412 Low	2.0000		12/5/2009		300	



## Where Used - Single Level

Tuesday, August 02, 2011 1:50:53 PM

Page 1 of 1

Component Item ID	Component Name	Unit of Measure	As of: 8/2/2011 1:50:41 PM				
D2892-1	Support	Each					
Parent Item ID	Parent Description	Quantity Per Assembly	ECO ID	Effective Start Date	Effective Stop Date	Routing Sequence	Find Nbr
D206-667-203BL	Crosstube Aft, Blue	2.0000		12/5/2009		230	
D206-667-207BL	Crosstube Mid Aft	2.0000		12/5/2009		230	
D206-667-203	Crosstube Aft	2.0000		12/5/2009		230	

## Where Used - Single Level

Tuesday, August 02, 2011 1:50:47 PM

Page 1 of 1

Component Item ID	Component Name	Unit of Measure	As of: 8/2/2011 1:50:41 PM				
D2891-1	2.25 Support	Each					
Parent Item ID	Parent Description	Quantity Per Assembly	ECO ID	Effective Start Date	Effective Stop Date	Routing Sequence	Find Nbr
D058-676-101	Crosstube Fwd	2.0000		12/5/2009		230	
D058-676-201	Crosstube Aft	2.0000		12/5/2009		230	
D206-667-101	Crosstube Fwd	2.0000		12/5/2009		250	
D206-667-101QS	Crosstube Fwd - Quick Silver	2.0000		12/5/2009		250	
D206-667-103	Crosstube Fwd	2.0000		12/5/2009		230	
D206-667-103BL	Crosstube Fwd, Blue	2.0000		12/5/2009		230	
D206-667-107BL	Crosstube Mid Fwd, Blue	2.0000		12/5/2009		230	
D206-667-201	Crosstube Aft	2.0000		12/5/2009		230	
D206-667-201QS	Crosstube Aft - Quick Silver	2.0000		12/5/2009		230	
D407-667-105	Crosstube Fwd	2.0000		12/5/2009		230	

D412-664-209

62039 65032  
62040 65033 ✓

D206-667-103

71361  
71362  
72498  
72494

D206-667-103 BL

71042 ✓

~~D206-667-107 BL~~

D206-667-203

69579  
69580  
70724  
70721 ✓

~~D206-667-203 BL~~

71044  
71045

D212-664-101

71749 72259  
71750 72260  
71747  
71748

D212-664-101 MB

72017 ✓

D212-664-107

71109  
71108 ✓

D212-664-201

69073 72417  
71488 72418 ✓  
71487

D212-664-201 MB

72018 ✓

D212-664-207

62172 62178 71196  
62173 71195 ✓

D407-667-105

70732 71752  
70733 71753

D407-667-205

69958 71824 72261  
69959 71825 72262

D412-664-203

69304 71375  
69303 71376  
69302